

The Tasmanian Geoconservation Database: A Tool for Promoting the Conservation and Sustainable Management of Geodiversity

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The Tasmanian Geoconservation Database (TGD) is a source of information about earth science features, systems and processes of conservation significance in Tasmania. It evolved when a number of sources were compiled as a single geoconservation digital dataset as part of the National Estate component of the 1997 Commonwealth-Tasmanian Regional Forest Agreement. The latest version of the TGD (version 7) was published in 2010 and lists some 1049 sites ranging in scale from individual rock outcrops and cuttings that expose important geological sections, to landscape-scale features that illustrate the diversity of Tasmania's geomorphic features and processes. The TGD is accessible to the public through Departmental websites. It is used as a planning tool in land management and in assessing development proposals at various scales. Under Tasmania's three major environmental codes of practice, the TGD must be consulted and certain actions are prescribed where a TGD site is present.

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INTRODUCTION

Tasmania is Australia's smallest state, and lies to the south east of mainland Australia separated by Bass Strait. It is comprised of 344 islands covering 68,401 square kilometres of which the main island occupies 62,409 square kilometres. Except for the outlying Macquarie Island, Tasmania and its islands lie between 39°14' and 43°51'S latitude and 143°50' and 148°29'E longitude. The isolated subantarctic Macquarie Island, located at 54°30'S 158°57'E is also part of Tasmania. Within this relatively small area lies an enormous range of geodiversity. There are geological units from every one of the 12 major periods of earth history from the Precambrian to the Holocene spanning some 4,600 million years. Geologically, it could be described as a microcosm of eastern Australia, with additional distinctive Tasmanian elements, such as extensive dolerite intrusions associated with the break-up of Gondwana. Landforms in Tasmania are also very diverse and include: rugged mountain ranges, spectacular glacial features, periglacial landforms, largely pristine

river catchments, extensive limestone and dolomite karstlands, inland dunefields and a range of coastal features including a number of relic features. Soil types vary across the state and are controlled by the bedrock and a range of soil forming processes. In short, Tasmania is a very geodiverse state.

Given the geodiverse nature of Tasmania, perhaps it is no surprise that Tasmanian earth scientists have played key roles in the relatively recent field of Geoconservation (Dixon 1995, Gray 2004 and Sharples 2002). Houshold and Sharples (2008) provide a history of geoconservation in Tasmania. Sharples (2002) defined the terms geoconservation and geodiversity as follows: *Geoconservation* is the identification and conservation of geodiversity for its intrinsic, ecological or heritage values. *Geodiversity* is the natural range (diversity) of geological (bedrock), geomorphological (landform) and soil features, assemblages, systems and processes. Geodiversity includes evidence for the history of the earth (evidence of past life, ecosystems and environments) and a range of processes (biological, hydrological and atmospheric) currently acting on rocks, landforms

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Table 1. List of geoheritage inventories consulted as part of the process to compile version 1 of the Tasmanian Geoconservation Database under the Commonwealth- Tasmania Regional Forest Agreement.

Year	Inventory	Reference
1979	Geological monuments in Tasmania	Eastoe (1979)
1987	Geomorphological Reconnaissance of the Southern Forests area, Tasmania	Kiernan 1987
1991	Earth Resources of the Tasmanian Wilderness World Heritage Area	Dixon (1991)
1993	A Preliminary Geoheritage Inventory of the Eastern Tasmania Terrane	Bradbury (1993)
1994	A reconnaissance of landforms and geological sites of geoconservation significance in the North-Eastern Forest District (Eastern Tiers and Bass Forest Districts)	Sharples (1994)
1995	Continuation of Preliminary Inventory of Sites of Geoconservation Significance in Tasmania Central, Northern and Western Tasmania	Bradbury (1995)
1995	Geomorphological Reconnaissance of the Southern Forests area, Tasmania	Kiernan (1995)
1995	A reconnaissance of landforms and geological sites of geoconservation significance in Eastern Tasmania (parts of Derwent and Eastern Tiers Forest Districts)	Sharples (1995)
1996	Inventory and management of Karst in the Florentine Valley, Tasmania	Eberhard (1996)
1996	A reconnaissance inventory of sites of geoconservation significance on Tasmanian islands'	Dixon (1996)
1996	A reconnaissance of landforms and geological sites of geoconservation significance in the Murchison Forest District	Sharples (1996a)
1996	A reconnaissance of landforms and geological sites of geoconservation significance in the Circular Head Forest District	Sharples (1996b)

and soils. These definitions have been adopted in Tasmania and the concepts of geoconservation and geodiversity are considered an integral part of nature conservation within Tasmanian land management authorities.

With the recognition of geoconservation in Tasmania, a tool to assist in the management of Tasmania's significant geoconservation features was required and the Tasmanian Geoconservation Database (TGD) evolved. Details of the TGD, its history, structure and uses are described below.

There are a number of different approaches to managing information about geoconservation values within other Australian States, however it is beyond the scope of this paper to assess or compare these.

Development of the Tasmanian Geoconservation Database

The TGD was developed as part of the process leading up to the 1997 Commonwealth - Tasmania Regional Forest Agreement (RFA) under the comprehensive regional assessment (Dixon and Duhig 1996). This process enabled the compilation of a single digital database of significant geoconservation sites across Tasmanian. In generating the list of sites, a

number of documents already listing geoconservation values across Tasmania as a whole or dealing with specific regions of the state were consulted. The earliest of which dated back to 1979, when the Geological Society of Australia published a report on Geological Monuments of Tasmania – a descriptive list of fifty or so geological features and landforms (Eastcote 1979). A number of subsequent geoheritage inventories produced by the Parks and Wildlife Service and the (then) Forestry Commission in the 1990s formed a significant resource in compiling the initial database. Table 1 lists key inventories referenced as part of this process.

The RFA process led to a database with 900 geoconservation sites. The (then) Department of Primary Industries and Water took responsibility for managing the database in 1999 and established an expert panel (see *Listing Process* below) to advise on the listing of sites. In 2005 a summary version of the TGD was first published on the web establishing it as a standard reference for planning and land management within Tasmania (Eberhard and Hammond 2007). The latest version of the TGD (version 7) was published in 2010 and lists some 1049 sites.

Further development of the TGD, and the

Table 2. Primary level and type site classification in the Tasmanian Geoconservation Database (Dixon and Duhig 1996 and Version 7 TGD). These fields are intended to illustrate those elements of the site which are significant and are not used in a purely descriptive manner. In classifying sites, additional types are permitted if the listed ones do not provide a relevant option.

Primary level	Type
Geology	Classical (a)
	Historical (b)
	Igneous – intrusive
	Igneous – volcanic
	Metamorphic
	Mineralogy
	Palaeoenvironment
	Palaeontology
	Petrology
	Relationship
Geomorphology	Aeolian
	Coastal
	Karst
	Glacial
	Marine
	Estuarine
	Lacustrine
	Periglacial
	Fluvial
	Periglacial
	Mass movement
	Weathering
	Erosion Surface
	Structural landform
Soil	Organic (undifferentiated)
	Swamp peat
	Blanket bog
	Basalt
	Soil
	Laterite
	Palaeosol
	Duricrust
	Alkaline pan
	Mineral soils undifferentiated
(a) Refers to features known from the literature or some other way to earth scientists	
(b) Refers to features with local historical interest additional to their geological interest.	

provision of advice concerning listed sites, is core business for the Geodiversity Conservation and Management Section, part of the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE).

Structure

Currently the TGD comprises two data sets, with textual information stored in a Microsoft® Access database and spatial information (stored as polygon data) along with a subset of the text fields in an Oracle database. A program to transfer all TGD data onto a restructured Oracle database is currently underway (see *Future Directions* below).

The database comprises a number of fields that describe various attributes of the sites. Dixon and Duhig (1996) and Sharples (2000) describe the fields more fully. A separate spatial layer is attached to each site. Many of the fields are simple identification or broad descriptive fields (e.g. ID code, GIS code, Site name, Coordinate description, Coordinates, Size, Physical form of site etc) and are generally self explanatory.

Sites are primarily classified into geology, geomorphology and soil types and are further subdivided as shown in Table 2. These fields are intended to illustrate those elements of the site which are significant and are not used in a purely descriptive manner. A site may have multiple entries where it is considered significant for more than one type or sub type. Significance, level, age, sensitivity, degradation and conservation fields are common to each of the geology, geomorphology and soils types or sub types.

Each listed site is assigned a significance level on a scale that includes world, Australia, Tasmania, region, or local. These are described by Sharples (2000). The sensitivity field is a number that gives a general indication of the kinds of impacts that would degrade the value of the site. The scale is roughly linear on a scale of 1 to 10 following Kiernan (1997). A site with a sensitivity of 1 is very sensitive to damage, while a site with a sensitivity of 10 is robust such as large regions whose geoconservation values reside essentially in their large scale form. For all sites there is an overall significance and sensitivity field that encapsulates the most significant and most sensitive aspects of the site.

A limited number of sites within the database are listed as restricted and specific site information is not available to the general public for these sites. Such sites are very sensitive and vulnerable to

physical damage or complete loss through collection. Typically localised fossil or gemstone sites fall within this class. When a web-based spatial search is done on an area where such sites occur a message will appear to inform the user that a restricted site is located in the search area and to contact DPIPWE.

Public access to the database through DPIPWE websites provides access to spatial information and limited site textual information. The Department also provides full copies of the database to interested parties (typically Government agencies or large private land managers and consultants) under a standard licence agreement.

Listing process

Any person can nominate a site for consideration for listing on the TGD or propose an amendment to an existing TGD site. Proposals to add, delete or amend sites are assessed by an independent scientific panel. The panel, known as the Tasmanian Geoconservation Database Reference Group (TGDRG) is comprised of members with demonstrable expertise in aspects of Tasmanian geodiversity. The composition and roles of the TGDRG are defined under Terms of Reference (DPIWE 2009) and state that the TGDRG will comprise at least six persons and that the disciplines of geology, geomorphology and soil science will be each represented by at least two persons. Current membership of the TGDRG includes representatives from staff at the University of Tasmania, Tasmanian Minerals Council, government departments and independent consultants. There are currently fourteen members. Members are appointed by the General Manager, Resource Management and Conservation Division (RMC) of DPIPWE. The group generally meets annually to consider nominations and amendments. DPIPWE provides a secretary to the group. Subcommittees of the TGDRG may be formed to address specific issues and advice may be sought from non-member peers acknowledged by the TGDRG.

Recommendations from the TGDRG on listing and de-listing of sites are made to the General Manager, RMC who has ultimate responsibility for the TGD. Listing criteria for TGD sites are as follows and are set out in the Terms of Reference (DPIPWE 2009). The criteria are general and provide scope for considering a broad range of values, including the more traditional geological reference sites e.g. type sections, as well as landforms and assemblages of geodiversity related values. The expert panel validates site nominations and provides scientific rigour to the listing process.

- Consideration will only be given to listing sites that have developed as a result of natural processes. Natural features exposed artificially (e.g. road cuttings, quarries etc) will be considered.
- When listing sites, consideration will be given to the degree and clarity with which sites exhibit or exemplify the important characteristics and values of their type.
- Where appropriate classificatory frameworks are available, priority will be given to the inclusion of representative exemplars of the different classes of geodiversity.
- In the absence of appropriate classificatory frameworks, priority will be given to the inclusion of the widest possible range of distinctive elements within each geodiversity theme.
- The assessment will take account of the integrity of natural features and processes that contribute to site significance. Degraded sites may be listed provided they maintain part or all of their relevant geoconservation values.
- Sites will be assessed according to their significance within a hierarchy of levels ranging from global to local. The assessment will consider the georegional context where appropriate.
- In cases where other natural values contribute to the geoconservation significance of the site, sites may be included, conditional upon appropriate professional advice.
- Sites under consideration will be deleted from the TGD if not accepted as listed sites within five years of being nominated.

A nominated site must be supported by an explicit statement of significance, justifying its importance with reference to other potentially comparable sites and/or unique or distinctive elements. This information is then evaluated by the TGDRG and a recommendation made regarding the suitability of the site for listing in the TGD. The listing criteria emphasise representativeness – the degree to which a site encapsulates characteristic elements of Tasmania's geodiversity – in order to ensure that good examples of even common features are considered. The intent here is to ensure that commonplace features do not ultimately become rare through lack of recognition that they too contribute to geodiversity. Further work is required to develop appropriate classificatory frameworks for geodiversity to implement this goal in a comprehensive way.

The listing status of new sites goes through the following stages:

- *Proposed site* – sites submitted to the TGDRG, prior to being formally considered by that group. These sites are not included in published versions of the database.
- *Site under consideration* – site tabled at the TGDRG, where the group determines that the site potentially satisfies the criteria for listing but requires more information before accepting it for listing in full. Sites under consideration are included in published versions of the TGD.
- *Listed sites* – sites accepted for listing by the TGD Reference Group.

Implications of TGD listing

The database is a resource for anyone with an interest in conservation and the environment, however, the principal aim is to make information on sites of geoconservation significance available to land managers in order to assist them manage these values. The TGD is used extensively in land use planning within Tasmania.

Under present Tasmanian law, the TGD has no statutory basis and geodiversity generally lacks statutory protection comparable to that applicable to threatened species or Aboriginal heritage for example, which cannot be interfered with without authority, irrespective of the tenure of the land. Explicit legal protection for geodiversity is restricted to Crown reserves managed under the *National Parks and Reserves Management Act 2002*, which establishes the conservation of ‘geological diversity’ as a statutory management objective for reserves under the Act (evidently the term ‘geological diversity’ was adopted in drafting the legislative because ‘geodiversity’ was not defined in the Macquarie Dictionary. However, the Act indicates an essentially identical meaning for geological diversity: ‘the natural range of geological, geomorphological and soil features, assemblages, systems and processes’). Under s4 of the *National Parks and Reserved Land Regulations 2009*, it is an offence to ‘interfere with, dig up, cut up, collect or remove any sand, gravel, clay, rock or mineral or any timber, firewood, humus or other natural substance’ or to ‘remove, damage or deface any rock, stalactite, stalagmite or other formation in a cave’. This requirement applies to about 2,350,000 ha or 35% of Tasmania’s land mass, including many sites listed in the TGD.

Notwithstanding the lack of broader statutory protection, sites listed in the TGD are subject to constraints under a variety of administrative processes. Of particular importance are three key State Codes of Practice: the Forest Practices Code (Forest Practices Board 2000), Mineral Exploration Code of Practice

(Bacon 1999) and the Reserve Management Code of Practice (PWS *et al.* 2003). These documents specify acceptable standards of environmental practice during forest operations, mineral exploration and mining and reserve management respectively. They require development proponents to consult the TGD and seek expert advice on protection requirements where listed sites are present.

The State Environment Protection Authority has produced guidelines to assist proponents prepare development proposals and environmental management plans for developments classified as Level 2 activities under Tasmania’s *Environmental Management and Pollution Control Act 1994*. S4.7.2 (f) of the guidelines requires proponents to consider ‘effects on sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database’. Some local government planning authorities require development proponents to address the potential presence of TGD sites on land subject to planning applications.

In addition to formal requirements of this kind, the TGD has become a standard reference in virtually all contexts requiring consideration of environmental effects in Tasmania, ranging from major projects of State significance to farm dams to local government planning schemes. Its success in this regard evidently reflects growing awareness that geodiversity underpins ecosystem processes generally and must be considered alongside biodiversity in conservation and sustainable land management initiatives.

A limitation of the database is that the TGD lists sites of known significance, but is not based on a comprehensive State-wide inventory of geoconservation values, and the absence of identified values at a particular location may reflect gaps in the database rather than as conclusive evidence that geoconservation values are not present. Most systematic geoconservation surveys that have been conducted to date have been based on public land based around land management boundaries (see Table 1).

Sites

Currently there are 1049 sites listed on the TGD (version 7). The distribution of these sites is shown in Figure 1. Sites vary in size from small individual rock outcrops and fossil sites less than one hectare, to large landscape sites of several hundred thousand hectares. The three largest sites are the: Central Highlands Cainozoic Glacial Area (781,455 ha); the Tyennan region (643,412 ha) and the Western Tasmanian

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Figure 1. Distribution of Tasmanian Geoconservation Database listed sites (version 7). Macquarie Island, 1200 km to the south east of Tasmania is not shown nor are islands containing sites north of Flinders Island in Bass Strait (Hogan, Kent group, Curtis, and Moncoeur Island group)



Table 3. World significant sites listed on the Tasmanian Geoconservation Database (version 7).

Sulphur Creek Pillow Lava and Folds
Hellyer River Insect Fossil Locality
Reward Creek Mineralisation
Lemonthyme Creek Glacials
Poatina Fossil Crab Site
Little Rapid River Early Oligocene Plant Fossil Site
Lake Fidler and Sulphide Pool Meromictic Lakes
Lake Morrison
Collingwood River White Schist
Balfour 'String of Beads' Fossil Locality
Tessellated Pavement
Cape Surville Dolerite Feeder Intruding Basement
Dianas Basin Folds
Penguin Megabreccia
Florentine Road Gordon Group Stratigraphic Sections
Lords Siltstone Unit/Gordon Group Stratigraphic Sections
The Fossil Cliffs
City of Melbourne Bay Foreshore
Upper Gordon Group Stratigraphic Sections
Florentine Valley Gordon Group Stratigraphic Sections
Darwin Crater
Adamsfield Workings Mineralogy
Rodway Valley Blockfield
Lower Gordon River Levee - Flood Basin System
Cynthia Bay Moraines
Mt Anne (North East Ridge) Glaciokarst
Lake Pedder (the original)
Exit Cave - D'Entrecasteaux Valley Karst Area
World Heritage Area Sandy Coasts
Macquarie Island Oceanic Lithosphere
New River Undisturbed Fluvial and Karst systems
Weld River Basin Karst and Fluvial Systems
Macquarie Graben Fluvial Geomorphic Systems
Central Plateau Terrain
Western Tasmania Blanket Bogs
Cashions Creek Limestone/Gordon Group Stratigraphic Sections

Blanket Bogs (596,637 ha). Many sites overlap one another and the total area of the state covered by TGD listed sites is about 4,105,000 ha or some 60 percent of Tasmania. 49 sites are classed as very large (>1,000 ha), 395 as large (25-1,000 ha), 335 as medium sized sites (1-25 ha) and 277 as small sites (< 1 ha).

The western half of the state has a greater density of TGD listed sites. This is due in part to the more complex geology to the west and also reflects a bias in previous geoconservation inventories that have largely been confined to public lands (Table 1), with

the largest state reserves (e.g. Tasmanian Wilderness World Heritage Area) located in the west of the state. The west also contains a number of the very large landscape scale individual TGD sites.

There are TGD sites representing geological ages from the Precambrian to the Holocene. Quaternary sites account for some forty per cent of listed sites. Twenty percent of sites are of Tertiary age and Triassic, Devonian, Cambrian and Precambrian sites each comprise approximately five percent of the total.

Levels of significance have been assigned to most sites (27 are listed as unknown) with 15 per cent of sites considered significant at a local level, 30 percent at a regional level, 35 percent at a Tasmanian level, 12 percent at an Australian level and 3 percent at the world level. World significant sites are considered to be rare in the world and/or, by the nature of scale, state of preservation or display, comparable with examples known internationally and may be illustrative of processes occurring or having effects at a continental or national scale. The 35 world significant sites listed on the TGD are shown in Table 3. Detailed notes on a few of these sites follow by way of example of the type of information stored on the TGD.

The *New River Undisturbed Fluvial and Karst systems* TGD site situated roughly halfway along the south coast of Tasmania is considered a site of world significance (figure 2). It includes the entire New River drainage basin from Federation Peak (source) to Prion Beach (river mouth), including the Salisbury River tributary catchment basin. It is contained within the Southwest National Park and Tasmanian Wilderness World Heritage Area.

It is the largest complete source-to-sea fluvial geomorphic system in Tasmania that is entirely mantled by old growth forest, is undisturbed by contemporary human activities including land clearance, roads or walking tracks, and shows no evidence for late Holocene disturbance to fluvial processes due to former Aboriginal activity (Sharples 2003). The basin also contains extensive high-relief Precambrian dolomites and Ordovician limestones (Dixon & Sharples 1986) that are mostly unexplored but are both known to contain extensive undisturbed karst landform systems. These include

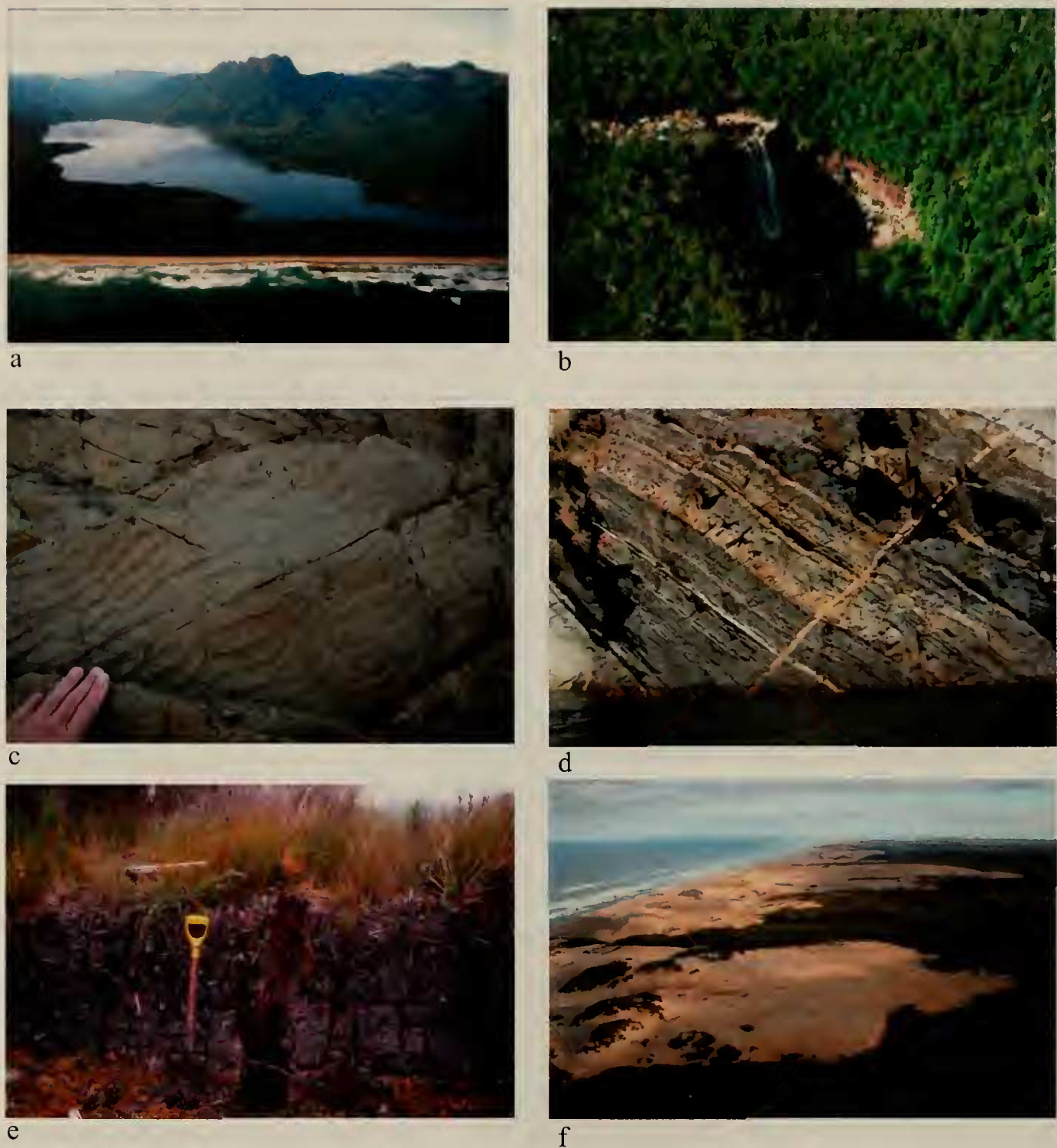


Figure 2. Photographs of selected sites from the Tasmanian Geoconservation Database (TGD). (a) Undisturbed New River fluvial and Karst systems (photo Grant Dixon), (b) Vanishing Falls (photo Rolan Eberhard), (c) TGD listed Precambrian ripple marks, Gardiner Point (Photo R Eberhard), (d) Complex geology in Devonian Mathinna group sediments Maria Island coastline (photo Michael Comfort), Organic rich soils of the Western Tasmanian Blanket Bog TGD site (photo Mike Pemberton), and (f) Interview River transgressive sand sheets (photo Rolan Eberhard).

extensive caves below Precipitous Bluff and at Salisbury River (limestone), Tasmania's largest stream sink (Vanishing Falls), and a poorly documented karst system at Forest Hills (dolomite). The New River fluvial system is considered outstanding as the largest undisturbed complete source – to – sea, temperate

maritime climate, fluvial geomorphic system in Australia, and as such is probably comparable to the best examples globally. The presence within the undisturbed catchment of extensive undisturbed karst landform systems is an additional geomorphic value of outstanding significance at a global level.

The fluvial and karst geomorphic systems of the New River Basin constitute benchmark geomorphic systems of outstanding universal scientific and intrinsic value by virtue of their extent and undisturbed geomorphic processes, and were assessed to be of outstanding universal value (World Heritage significance) in their own right by Sharples (2003).

Another world significant site on the TGD is the *Western Tasmania Blanket Bogs* (figure 2). This is a large area covering much of western Tasmania and isolated pockets across other parts of the state. It covers a combined area of nearly 600,000 ha. It is the most extensive organosol terrain in Australia and the Southern Hemisphere. Blanket bogs cover undulating country but can also form on slopes of 40°. Various geological types are covered, but the best development is on infertile, siliceous substrates. The blanket bogs developed in response to high precipitation, high humidity, and low evaporation, similar to other temperate maritime areas such as Ireland. The conservation values of the site relate to the total extent and size of the organosol terrain. The site also contains various significant component features including peat mounds, subfossils and palaeosols.

A number of TGD sites are found on King Island at the western end of Bass Strait including a world significant site, the *City of Melbourne Bay Foreshore*. The site is a shore platform and includes a section of Cambrian rocks, including sediments (sandstone, siltstone, dolomite and mixtite), pyroclastics and lavas (flows and pillows). Pillows indicate seafloor volcanism and are spectacular, with individual pillows and flows visible in plan and section. The mixtite, once thought to be a tillite, is now considered to have a non-glaciogenic density flow origin. More recent studies indicate that the site consists of superb coastal exposures of the Late Neoproterozoic Grassy Group, including glacial deposits of the Marinoan ice age, 'cap dolostone', shale, peperites and pillow lavas (tholeiitic and picritic), and petrologically unusual felsic intrusives. The dated volcanics (579±16 Ma) and intrusives (575±3 Ma) provide globally important constraints on the age of the beginning of the Ediacaran Period as well as the hypothesised 'snowball Earth' episode.

Future directions

As noted above, DPIPWE is currently in the process of restructuring the existing database and combining both the textual and spatial data into a single database on Oracle software, to be housed

within the Department's Natural Values Atlas, a web-based product for publishing information on natural values. A number of the fields of the database reflect the fact that the TGD was developed over a decade ago as part of the Regional Forest Agreement process and with developments in geoconservation principles and practice since the TGD was first developed a number of changes to the database are proposed. Some of these are related to increased software capacity and functionality while other changes are more fundamental to database fields. The sensitivity and classification fields are likely to see the most changes. The new proposed sensitivity ratings will be related to specific activities or threats and for each site there will be a number of ratings depending on the proposed activity compared to the existing database that has a generalised sensitivity rating based on a roughly linear scale. This will enable more meaningful assessments across a broader range of activities, reflecting the expanded use of the TGD in assessing developments across a range of land tenure and land use settings. The second field where a major change is proposed is the classification field. Currently sites are classified according to categories applied during the RFA based on earlier work by Dixon (1991). Despite its then innovative nature, it is no longer considered adequate for present purposes and a new classificatory system has been developed and trialled. It is expected that this will greatly improve the functionality of the TGD and enable enhanced searching functionality.

The new software will also enable site nominations to be entered on-line, with various innovations to ensure more consistent and complete data entry. Once sites have been assessed by the TGDRG and approved by DPIPWE a new version of the database will be available to users directly and not as is the current practice of having to wait several months for new versions to be issued. Users of the new database will also be able to see a more comprehensive range of information relating to sites and it is hoped over time to expand this information to include photos, site condition reports and other information.

It is envisaged the restructured database and operating system will facilitate its use as a standard planning reference, while freeing up existing staff resources to systematically survey and review sites based on geo themes or the new classificatory system to enhance the TGD. Access to the revised database will be through the Natural Values Atlas portal at www.naturalvaluesatlas.tas.gov.au

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